

thoraco vix brevius, versus apicem paulo angustius, subtus fere nudum, fortiter punctatum; scrobes dorsales, antice profundi curvati, apicem fere attingentes, postice late et minus profunde ad oculos continuati ibique squamosi. Antennæ prope apicem insertæ, elongatæ, scapo curvato clavato, apicem thoracis superante, funiculi articulo secundo quam primo multo longiore, articulis apicalibus elongatis. Prothorax transversus, antice posticeque truncatus. Elytra ovata, humeris nullis, ad basin subtruncata, evidentiter punctato-striata. Pedes sat validi, femoribus clavatis inermibus, tibiis fere rectis, apice inermibus, corbulis posticis apertis, tarsorum articulo primo lato (tertio fere æquali), secundo angustiore sed lato triangulari, unguiculis liberis. Abdominis segmentum primum postice truncatum, secundum brevius quam 3+4; sutura episterni metasternalis ad basin tantum perspicenda.

TYPE *Sciobius squamulosus*, Boh.

The species upon which this genus is founded cannot remain in *Sciobius*, because the mandibular scar is entirely wanting. The maxillæ are not exposed laterally, but the palpi are partially visible beyond the apex of the mentum.

1. *Nastomma squamulosa*, Boh. (*Sciobius*), Schh. Gen. Cure. vii. 1, p. 194 (1843); Marshall, Proc. Zool. Soc. 1906, i. p. 274.

CAPE COLONY: Grahamstown.

TYPE in the Stockholm Museum.

III.—*The Collections of William John Burchell, D.C.L., in the Hope Department, Oxford University Museum.*

- IV. *On the Lepidoptera Rhopalocera collected by W. J. Burchell in Brazil, 1825-1830.* By CORA B. SANDERS, of Lady Margaret Hall, Oxford.

[Continued from ser. 7, vol. xiii. p. 371.]

IV. MORPHINÆ.

THE following paper contains an account of the Morphinæ and Brassolinæ collected by Burchell in Brazil. The notes of habits and modes of flight are not only of the deepest interest on account of their early date, but even more from their intrinsic value and the precision conferred by the

association of each record with a particular specimen. In checking the data in the manuscript I have had much kind and efficient help from Mr. J. C. Moulton, of Magdalen College. The probability of error is so high in a work of this kind, that the task of verification is both prolonged and laborious. The manuscript of all papers on this Brazilian collection requires the most careful comparison with the data on the specimens themselves, with those contained in Burchell's two manuscript note-books, and in Professor Westwood's list, while the inevitable occasional inconsistencies between these sources demand the utmost attention.

Professor Westwood's manuscript Catalogue of "Burchell's Morphides" contains both *Morphinæ* and *Brassolinæ* grouped under 27 numbers, some of which were afterwards united by a bracket. With one or two exceptions the material is entirely unnamed. The list itself, which is neatly written in a clerk's hand, contains several errors, of which the probable corrections are indicated below. A note and two suggested names in Professor Westwood's handwriting are seen opposite three of the species separated out by him. A single number in the list "M. 21" refers to a Nymphaline butterfly (a *Prepona*) accidentally included and afterwards detected by Professor Westwood; while one Brassoline butterfly was accidentally placed in the Catalogue of *Hipparchia* (H. 5) and two of the same group in the Catalogue of Nymphalines (N. 18 and N. 20*).

The following arrangement of numbers and dates is carefully explained in Ann. & Mag. Nat. Hist. ser. 7, vol. xiii., April 1904, pp. 309, 310. Notes, other than numbers and dates, written on labels attached to the specimens are placed between inverted commas immediately after the numbers in heavy type, and immediately before the locality. They are found on relatively few specimens. When a specimen bears a number only, the date, recovered from Burchell's note-book, is placed between square brackets. "a." and "p." associated with the date stand for "A.M." and "P.M."

E. B. POULTON.

Morpho laertes, Drury.

- Bz. + 23. 2. 26. = 355. Organ Mountains. Near Frechál, near R. Pacaqué.
 19. 3. 26. = 356. Rio de Janeiro. "In the valley of Catombí."
 22. 3. 26. = 357. Rio de Janeiro. "Along the [Carioca] Aqueduct to the head of the valley of Laranjeiros."

3. 4. 26. = 358. Rio de Janeiro. "Along the Carioca Aqueduct."
 4. 3. 27. = 359-361. Near S. Paulo. "Morumbý: over the hilly pastures E^d of the house."
Bz. 4. 3. 27. = 362. "Lente volans, secus marginem sylvæ." Near S. Paulo. As 359-361.
 12. 3. 27. = 363. "In silvis et silvaticis." Near S. Paulo. "Morumby. Walk to old house."
 16. 3. 27. = 364. "Between Morumbi and S. Páulo."
 Westwood's list, which also includes no. 365, agrees, save for the statement that two specimens were captured 16. 3. 27.

Morpho catenarius, Perry.

4. 3. 27. = 365. Near S. Paulo. (As 359.)

Morpho perseus, Cram.

- Bz.* + 2. 6. 29. = 366. "Picked up floating dead on the river." R. Tocantins, just below Baião: "Sitio das Pedras."
 Westwood's list agrees.

Morpho anaxibia, Esp.

1067. 3. 4. 26. ♂ = 367. Rio de Janeiro. "Along the Carioca Aqueduct. *Papilio*. 'O. Imperador?' Above entirely metallic blue, beneath a plain brown."

Westwood's list agrees, but does not include the following specimen.

6. 3. 27. ♂ = 368. "Hab. in densis sylvarum volatu lento altiore in cursu subrecto." Near S. Paulo; "Morumbý. Road N.N.W. of house."

The following passage in the Brazilian note-book almost certainly refers to this species:—"6. 3. 27. *Papilio*—at Morumbý. In the interior of the forest. Flies slowly and steadily; generally high."

[Three wings of this specimen with Burchell's MS. label fortunately still attached, were found, Feb. 2, 1904, among insects of entirely different orders.—E. B. P.]

Morpho adonis, Cram.

28. 10. 25. ♂ = 369. Minas Geraës. "In the Forest on the West and on the East side of S. João de Nêpomucéna."
 29. 10. 25. 2 ♂ = 370, 371. Minas Geraës. "In the forest on the S.E. side of S. João de Nêpomucéna."

29 or 30. 10. 25. ♂ = 372. Two labels affixed to one specimen. Minas Geraës. (As 370 or 373.)

30. 10. 25. 2 ♂ = 373, 374. Minas Geraës. " (In the forest.) On the N.E. side of the Arraial of São João de Nêpomucéna."

23. 2. 26. ♂ = 375. Organ Mountains. (As 355.)

Westwood's list gives another individual with the data 8 p. 15. 2. 26, and also indicates that the two labels on no. 372 were placed upon two individuals at the time when the Catalogue of Morphides was written. Burchell was near the R. Pacaqué in the Organ Mountains on Feb. 15, 1826. His Geographical Catalogue reads "along the road, 1½ mile S. of the house."

Morpho cytheris, Godt., = *portis*, Hübn.

11. 2. 26. ♂ = 376. Organ Mountains. "By the River Pacaqué." "In a walk to the Ipé trees."

Bz. + 20. 2. 26. ♂ = 377. Organ Mountains. Near R. Pacaqué. "Near a Rivulet East of the house."

Westwood's list agrees.

Morpho menelaus, Linn., f. *terrestris*, Butl.

Bz. + 23. 7. 29. = 378. Pará. "Between my house and the City."

Westwood's list agrees. He placed this and the following under the same catalogue no.

Morpho menelaus, Linn., f. *menelaus*, Linn.

23. 7. 29. = 379. Pará. (As 378.)

Westwood's list agrees.

Morpho menelaus, Linn., f. *nestor*, Linn.

Bz. 1367. + Bz. 22. 4. 29. Sylva mas et foem. + 22. 4. 29. 1367 fem. ♀ = 380. R. Tocantíns, Porto Real [Naçãoale]. The specimen bears two Brazilian labels and one English.

Westwood's list agrees, save that by a clerical error 1376 is written for 1367. The corresponding label of the male associated with 380 is probably misplaced upon a female specimen of *M. achilles*, no. 404.

Morpho achilles, Linn., f. *achilleana*, Hübn.

Bz. 308. [14. 10. 25.] ♂ = 381. Minas Geraës. Burchell was at Parahiba on Oct. 12 and "at the Discobérto do

Antonio Velho" on Oct. 15. "*Papilio*. Magna. Supra cœrulea, margine lato nigro, punctis (albis in anterioribus, et rubris in posterioribus) marginalibus. Macula alba in margine anteriore alarum anteriorum. Subtus fusca ocellis pluribus." "This inhabits thick forests and hovers along alleys and openings in the woods, and is difficult to catch, although it flies generally near the ground."

- Bz. 576. [21. 10. 25.] ♀ = 382. Minas Geraës. "*Papilio*. In a rossa at Discoberto, and along a channel (on the margin of the forest) which conducts water to the house." Westwood's list gives "567,"—almost certainly a clerical error.
29. 10. 25. ♀ = 383. Minas Geraës. (As 370.)
4. 11. 25. ♂ = 384. Minas Geraës. Near Nêpomucéna at Francisco Manoel's. "4th. Some tropeiros from the rancho seeing me catching Papilionidæ, caught a few also for me. I afterwards ascended the hill into the forest northward of our Rancho and took insects, till wet through in a thunder shower."
7. 11. 25. ♂ = 385. Minas Geraës. Near Nêpomucéna. On Nov. 6th Burchell was at Capitão Leite's."
15. 2. 26. 2 ♂ = 386, 387. Organ Mountains, near R. Pacaquê. "Along the road, 1½ miles S. of the house."
- Bz. + 28. 2. 26. ♀ = 388. Organ Mountains. "On the Rio Magé."
7. 3. 26. ♂ = 389. Rio. "At Catombí."
- Bz. 10. 3. 26. ♂ = 390. Rio.
10. 3. 26. ♀ = 391. Rio.
12. 3. 26. ♂ = 392. Rio. Carioca Aqueduct.
- Bz. a 13. 3. 26. ♂ = 393. "From Magé." Rio.
- Bz. 19. 3. 26. ♂ = 394. Rio. "In the valley of Catombí."
19. 3. 26. ♂ = 395. Rio. "In the valley of Catombí."
- Bz. 20. 3. 26. ♂ = 396. Rio. "Along the Carioca Aqueduct."
20. 3. 26. 2 ♂ & ♀ = 397, 398. Rio. "Along the Carioca Aqueduct."
21. 3. 26. 3 ♀ = 399, 400, 401. Rio. "Along the Carioca Aqueduct."
- Bz. 1. 4. 26. ♀ = 402. Rio. "In the valley of Catumbi."
1. 4. 26. ♂ = 403.
1367. 22. 4. 29. ♀ = 404. "Mas." Porto Real [Naçionale], R. Tocantins. Although the word "Mas" is written upon the label, the specimen is a distinct female.
- In addition to the clerical error noted under no. 382,

Westwood's "Morphides 1" includes one more individual captured 10. 3. 26 and another bearing the date "14. 1. 26 Laranjeiros." The Brazilian note-book shows that Burchell visited the valley on 14. 1. 26 and that his captures were "omnia insuper plantas." Furthermore the data of no. 404 appear under the next number of Westwood's Catalogue, while those of no. 405 appear under no. 404, as though there had been an accidental transposition at some later date. Error in the data of no. 404 is also rendered probable from the fact that all the other examples of the *achilleana* form were captured at or in the neighbourhood of Rio, while 22. 4. 29 indicates a locality much further north. The possibility of Burchell mistaking the females of two allied species for male and female of a single species must, however, also be borne in mind.

Morpho achilles, Linn., f. *helenor*, Cram.

31. 10. 27. ♂ = 405. "In sylva opaca." E. of Goyaz : Sapezal to Campo Alegre.
 1247. 5 p. 7. 9. 28. ♂ = 406. Between Jaragua and Cavalcante ; near Rio Maranhao : Fe Guarda Mor. Burchell slept that night at Fe Guarda Mor. "*Papilio*. This species hovers low among the brushwood in shady deep forests and is not easy to catch."
 Bz. + 6. 4. 29. ♂ = 407. Porto Real (Nacionale).
 6. 4. 29. ♂ = 408. " "
 Bz. + 7. 4. 29. ♂ = 409. " "
 Bz. + 3. 6. 29. ♂ = 410. Rio Tocantins : N. of Sitio das Pedras and Baiao.
 7. 7. 29. ♀ = 411. Para. "Eastward of my house."
 Bz. + 29. 7. 29. ♀ = 412. Para. Westwood's label on this specimen refers to M (Morphides) no. 5 of his Catalogue, which reads 27. 7. 29, doubtless a mistake in copying.
 Bz. + 31. 7. 29. ♂ = 413. Para.
 7. 8. 29. ♂ = 414. Para.
 6. 9. 29. ♂ = 415. Para, S. Jose. "Walk [to] a rocinha near the Nazareth Church."
 15. 12. 29. ♂ = 416. Para: "suburbane."

In addition to the points mentioned after no. 404 and the clerical error in the case of 412, Westwood's list also differs in containing a specimen dated 1. 7. 29, when Burchell was at Para and took a "walk to the Caza de Pao." Westwood arranged the specimens under four numbers, Morphides 2-5, but subsequently bracketed all except 5 (containing only

no. 412), and noted of them, "Similar to No. 1, but fascia more distinct and reaching nearly to hind margin of h. w."

V. *BRASSOLINÆ*.

Dasyophthalma creusa, Hübn.

9. 2. 26. ♂ = 417. Organ Mountains. "By the river Pacaqué."

9. 3. 26. ♀ = 418. Rio.

No data. ♂ = 419.

Westwood's list agrees, but he separated the males and the female under different numbers.

Dasyophthalma rusina, Godt.

8. 2. 26. 2 ♂ = 420, ♀ = 421. Organ Mountains, near head of R. Pacaqué. "In a ride to the Cattle Pounds and the Milho Roça."

"♀? vel var. fasc. alar. ant. antea recurva." Westwood's note.

9. 2. 26. ♂ = 422. Organ Mountains. (As 417.)

11. 2. 26. 2 ♂ = 423, 424. Organ Mountains. "By the River Pacaqué." "In a walk to the Ipé trees."

On 424 Westwood's note reads "*Dasyophthalma Rusina* God G D L 56. *Lycaon* Lucas pl. 78." The reference is to Doubleday's and Westwood's 'Genera of Diurnal Lepidoptera,' London, 1850-2, vol. ii. pl. lvi. fig. 1 (*Pavonia rusina*).

14. 2. 26. ♂ = 425. Organ Mountains. Near R. Pacaqué. No data. 3 ♂ = 426-428.

Westwood's list gives another specimen captured 14. 2. 26, and three more specimens without data.

Eryphanis polyxena, Meerb., = *automedon*, Cram.

1054. [17. 3. 26.] ♂ = 429. Rio de Janeiro. "Along the Carioca Aqueduct, and descending the high hill (mentioned 31. 1. 26 ["the high hill N.W. of and close to Carioca Aqueduct"]) into the valley of Catombi." "Both these Papiliones were caught in the forest down the hill." The other "*Papilio*" was the Satyrine *Taygetis virgilia*, Cram., no. 350.

Westwood's list agrees: "*Opsiphaeus*?" is written opposite the Catalogue number.

Caligo beltrao, Hübn.

10. 3. 26. ♂ = 430. Rio.

1066. 1. 4. 26. ♀ = 431. Rio. "In the valley of Catumbi." "*Papilio*. This is one of the twilight tribe, but flies

also by day, in the woods: whereas the other species nearly resembling it, flies only during twilight. The chrysalis of this (1066) is ovate and of a green hue, and hangs at one end. I saw many at the house of a collector for sale: and their form was thus [rough sketch inserted here] but larger (2 inches?)."

Westwood's list agrees.

Caligo teucer, Linn.

31. 10. 27. ♂ = 432. "In sylva opaca." E. of Goyaz.

Westwood's list agrees.

Caligo ilioneus, Cram.

31. 12. 25. ♂ = 433. Rio. "Excursion to the summit of the Corcovado; from Catete and up the valley of Laranjeiros."

Bz. + 18. 1. 26. ♂ = 434. Rio. "In a walk to S. Christovão and Eugénho Velho."

10. 3. 26. ♂ = 435. Rio. Westwood's note reads "var. fascia al. ant. magis distincta."

Bz. + 4. 7. 29. ♂ = 436. Pará.

Nos. 434 and 436 form Westwood's "Morphides 9"; the other two are included in his "Morphides 10."

Caligo eurylochus, Cram.

Bz. + 1032. 10. 1. 26. ♀ = 437. Rio. "Praia Grande and S. João de Carahy." "*Papilio*. Flies only in the first part of the twilight, and makes its first appearance about 10 or 15 minutes after the sun has set. I never saw it by day. It frequents woods and woody places, flying within 6 feet of the ground. I have seen [it] at Rio in all the months, and once I saw one flying in Rua Quitanda."

The Rua Quitanda is one of the principal streets of Rio.

Bz. + 11. 1. 26. ♀ = 438. Rio. "At Laranjeiros."

Bz. 10. 3. 26. ♂ = 439. Rio.

Bz. + 18. 3. 26. ♀ = 440. Rio. "Along the Carióca Aqueduct."

Nos. 437 and 440 form Westwood's "Morphides 6," opposite which is written "*M. Eurylochus*?" The two remaining specimens fall into "Morphides 10," which also includes two missing specimens. Both bore the same data, viz. "1032. 14. 1. 26." The number 1032 evidently refers to the habits described for a different specimen and date under no. 437. On Jan. 14, 1826, Burchell collected ("omnia insuper plantas") in the Valley of Laranjeiros, Rio.

Opsiphanes batea, Hübn., = *didymaon*, Feld.

Bz. + 21. 2. 26. ♂ = 441. Organ Mountains; near the R. Pacaqué. "Along the road by the Rancho for 1½ mile from the house."

12. 3. 27. ♂ = 442. "In silvis et silvaticis." Near S. Paulo; "Morumbý: walk to old house." The specimen has lost the abdomen and the pencil of hairs on the hind wing; but the scar and the base of the tuft are distinct.

Westwood's list omits no. 441.

[I do not think that *didymaon* can be kept specifically distinct from *batea*. In no. 442 the black margin is wider and extends nearly to the cell of the fore wing, so that this specimen would be called *didymaon* by those who separate the two species.—E. B. P.]

Opoptera (Opsiphanes) syme, Hübn.

17. 3. 26. ♀ = 443. Rio. (As 429.)

Westwood's list agrees.

Catoblepia (Opsiphanes) berecynthia, Cram.

Bz. + 14. 6. 29. ♀ = 444. Pará.

1399. 24. 7. 29. ♂ = 445. Pará.

Westwood's list gives the first date as 14. 6. 27,—doubtless a copyist's error. Both are placed as no. 5 of his Catalogue of *Hipparchia*, thus clearing up one of the difficulties in that part of the list (see Ann. & Mag. Nat. Hist. ser 7, vol. xiii., May 1904, p. 370).

Opsiphanes inviræ, Hübn.

Bz. 10. 3. 26. ♂ = 446. Rio.

9. 9. 29. ♂ = 447. Pará: S. José.

6. 1. 30. ♀ = 448. Pará.

Westwood's data agrees, but he fuses *inviræ* with *crameri* and places both as no. 18 of his Catalogue of Nymphalinæ. He also includes an additional specimen of *crameri* with the data of no. 450.

Opsiphanes cassivæ, Linn., = *crameri*, Feld.

Bz. 1033. + Bz. 11. 1. 26 + 1033. 11. 1. 26. ♂ = 449. Rio: "at Laranjeiros." "*Papilio*. This has exactly [the] same habits as the preceding," namely *Caligo eurymachus*, no. 437.

1033. 14. 1. 26. ♂ = 450. "Laranjeiros." Rio: "brought from and collected in the Valley of Laranjeiros. Omnia insuper plantas."

Burchell's 1033 attached in his notebook to the date 11. 1. 26 evidently refers to the habits, stated under no. 449 to be the same as those of 437.

Brassolis astyra, Godt.

Bz. 25. 11. 26. ♂ = 451. "Mrs. Whitaker." Santos.

The data correspond to those given by Westwood, but the species was placed as no. 20* of his Catalogue of Nymphalinæ.

Dynastor darinus, Fabr.

3. 6. 27. ♂ = 452. "Antennæ sensim incrassatæ." Near S. Paulo.

Bz. + 5. 9. 27. ♀ = 453. "Cachoeira." Between Rio Pardo and Rio Gránde.

Westwood's list agrees. The specimens are placed as no. 23 of his Catalogue of Morphides.

IV.—Notes on the Forficularia.—X. A Revision of the Nesogastrinæ. By MALCOLM BURR, B.A., F.L.S., F.E.S.

THIS subfamily is characterized by the slender tarsi, with short third segment, by the antennæ as in the genus *Labia*, but the segments never cylindrical, by the strongly and sharply carinate elytra, and by the thickened femora.

The colour is usually some shade of deep chestnut or wine-colour, varied with red or with yellow.

The wings and elytra are sometimes abbreviated and abortive, sometimes perfectly developed, the two forms occurring often in the species.

The group is confined to the Malay Archipelago, New Guinea, and Australasia.

I cannot think why Verhoeff placed this group among the Forficulidæ, with which I can find no affinities. In the structure of the tarsi and of the antennæ they more nearly approach *Labia*, in which genus the known species have been hitherto included.